



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/595,494	06/15/2000	Hisayoshi Usui	13700	1390

23389 7590 11/25/2005

SCULLY SCOTT MURPHY & PRESSER, PC
400 GARDEN CITY PLAZA
SUITE 300
GARDEN CITY, NY 11530

EXAMINER

BRINEY III, WALTER F

ART UNIT	PAPER NUMBER
----------	--------------

2646

DATE MAILED: 11/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/595,494

Applicant(s)

USUI, HISAYOSHI

Examiner

Walter F. Briney III

Art Unit

2646

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/29/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 25 August 2005 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukushi (US Patent 5,793,250).**

Claim 1 is limited to a *digital portable telephone set having demodulating means for demodulating a received signal*. Fukushi discloses a phase demodulator selectively using a first or a second detector. See Abstract. As is clearly seen from figure 2, Fukushi discloses two phase-distortion calculators (17) and (26), which generate respective phase distortions (i.e. "a first and second data generating means for

Art Unit: 2646

generating first and second quality data"). Also as seen from figure 2, the calculators are in "parallel." As the desired signals received at the front-end of Fukushima are differentially phase-modulated, taking the difference between adjacent symbols demodulates the symbols into symbols comprising "received data" (two-bits) and "quality data" (four-bits in the case of Fukushima). See column 7, lines 44-50. The "quality data" from the first (17) and second (26) "data generating means" and the "received data" from both "generating means" is presented to the relay (30) and comparator (29), which together compose "a control unit" as claimed. Therefore, Fukushima anticipates all limitations of the claim.

Claim 2 is limited to *the digital portable telephone set according to claim 1, as covered by Fukushima, wherein the first quality data includes received signal frequency data*; Fukushima discloses a frequency offset (i.e. "first quality data includes signal frequency data") (figure 2, element f_{off}). See column 5, lines 38-49. Therefore, Fukushima anticipates all limitations of the claim.

Claim 3 is limited to *the digital portable telephone set according to claim 1, as covered by Fukushima, wherein the second quality data does not include the received signal frequency data*; Fukushima discloses using the value of f_{off} (i.e. "signal frequency data") to adjust the input to the "second detector" (26) such that the "second quality data" generated by the "second detector" does not include the "signal frequency data." See column 5, lines 55-58 and column 6, lines 39-42. Therefore, Fukushima anticipates all limitations of the claim.

Claim 4 is limited to *the digital portable telephone set according to claim 1, as covered by Fukushi, wherein the second data generating means further generates received data on the basis of the received signal*; as noted in the rejection of claim 1, the second difference calculator (26) generates two-bits of QPSK "received data" on the basis of the input symbol's angle and the previous input symbol's angle. See column 7, lines 38-50. Therefore, Fukushi anticipates all limitations of the claim.

Claim 5 is limited to *the digital portable telephone set according to claim 1, as covered by Fukushi, which further comprises automatic frequency control means for automatically controlling the received signal frequency on the basis of the first quality data*; Fukushi discloses using the value of f_{off} to control an "automatic frequency control" (column 5, lines 50-54), which controls received signal frequency. Therefore, Fukushi discloses all limitations of the claim.

Claim 6 is limited to *a digital portable telephone set having demodulating means for demodulating a received signal, wherein: the demodulating means includes data reproducing means, the data reproducing means having first data generating means for generating first quality data on the basis of the received signal*; Fukushi discloses a differential detector (figure 2, element 17) that generates a difference between symbols that include phase information (i.e. first quality data) (column 5, lines 29-44). *Second data generating means for generating second quality data different from the first quality data on the basis of the received signal*; Fukushi discloses a second differential detector (figure 2, element 26) that generates a difference between symbols that include phase information (i.e. second quality data) (column 6, lines 44-50). As is clear from figure 2,

Art Unit: 2646

the first (17) and second (26) detectors are in *parallel with each other*. *The second data generating means including a correcting circuit for correcting the received signal frequency data*; Fukushima discloses correcting the input to the second detector by way of DPLL (22) (column 6, lines 39-43). *A decoder for generating the second quality data and the received data on the basis of new frequency data obtained in the correcting circuit*; Fukushima discloses a decoder (26b) for generating "second quality data" (i.e. lower four bits) and "received data" (i.e. upper two bits) on the basis of the output from the DPLL. See column 7, lines 45-50. Therefore, Fukushima anticipates all limitations of the claim.

Claim 7 is limited to *the digital portable telephone set according to claim 6*, as covered by Fukushima, *wherein the correcting circuit corrects a frequency deviation of the received signal*; Fukushima discloses a DPLL circuit (figure 2, element 22) that adjusts the phase of the received signal considering the frequency offset value f_{off} (column 6, lines 36-43). Therefore, Fukushima anticipates all limitations of the claim.

Claim 8 is limited to *the digital portable telephone set according to claim 6*, as covered by Fukushima, *wherein the second quality data is used as line control data*; Fukushima discloses running the quality data output from "decoder" (26b) through an integrator (27) to drive a switch that selects between two inputs to the phase discriminator. In this way, the quality data output from the "decoder" (26b) serves as "line control" (column 6, line 65-column 7, line 10). Therefore, Fukushima anticipates all limitations of the claim.

Claim 9 is limited to *a digital portable telephone set having demodulating means for demodulating a received signal, wherein: the demodulating means includes data reproducing means, the data reproducing means having correcting means for correcting frequency data of the received signal;* Fukushima discloses a frequency offset circuit (figure 2, elements 18 and 36) that subtracts a frequency offset from the signal received by the antenna (figure 2, element 12). *Data generating means for generating quality data on the basis of new frequency data obtained in the correcting means;* Fukushima discloses a phase discriminator (figure 2, element 31) that generates demodulated data (i.e. received data) (column 7, lines 44-50) and an integrator (figure 2, element 19) that generates phase data (i.e. quality data) (column 5, line 61-column 6, line 7) based on the output of a subtractor (i.e. correcting circuit) (figure 2, element 36). *Corrected data obtained in the correcting means being used for received signal frequency control;* Fukushima discloses using the value of f_{off} to control an automatic frequency control (column 5, lines 50-54), which controls received signal frequency. Therefore, Fukushima discloses all limitations of the claim.

Claim 10 is limited to *the digital portable telephone set according to claim 9, as covered by Fukushima, wherein the quality data includes received signal frequency data;* Fukushima discloses that the output of the integrator (figure 2, element 19) contains phase distortion information (i.e. received signal frequency data). Therefore, Fukushima discloses all limitations of the claim.

Claim 11 is limited to *the digital portable telephone set according to claim 9, as covered by Fukushima, wherein the data generating means generates received data on the*

basis of the new frequency data; Fukushima discloses a phase discriminator that produces demodulated QPSK data selected by the output of the integrator (figure 2, element 19) that produces integrated phase distortion information (i.e. new frequency data).

Therefore, Fukushima discloses all limitations of the claim.

Claim 12 is limited to *the digital portable telephone set according to claim 9, as covered by Fukushima, which further comprises automatic frequency control means for automatically controlling the received signal frequency according to the corrected data obtained in the correcting means*; Fukushima discloses using the value of f_{off} (i.e. corrected data) to control an automatic frequency control (column 5, lines 50-54), the automatic frequency controller varies the received signal frequency. Therefore, Fukushima discloses all limitations of the claim.

Claim 13 is limited to *the digital portable telephone set according to claim 9, as covered by Fukushima, wherein the correcting means corrects frequency deviation of the received signal*; Fukushima discloses a frequency offset circuit (figure 2, elements 18 and 36) that operates to lower the phase distortion of the signal received by the antenna (column 7, lines 11-67). Therefore, Fukushima discloses all limitations of the claim.

Claim 14 is limited to *the digital portable telephone set according to claim 9, as covered by Fukushima, wherein the quality data is used as line control data*; Fukushima discloses using the integrated phase distortion information to drive a switch that selects between two inputs to the phase discriminator (i.e. line control) (column 6, line 65-column 7, line 10). Therefore, Fukushima discloses all limitations of the claim.

2. **Claim 16 is rejected under 35 U.S.C. 102(a) as being anticipated by the applicant's admitted prior art (AAPA) figures 5 and 7.**

Claim 16 is limited to a *digital portable telephone set including means for demodulating a received signal and reproducing data*. AAPA figure 5 includes a "phase detecting unit" (121) that provides "phase data" (129) "under control of a clock" (181) of "the reference frequency" (128) "at a timing of symbol clock" (132). AAPA figure 7 includes a "one symbol delaying unit" (141), a "subtractor" (142) for generating a "difference signal" (152), a "decoder" (143) and a "correcting means" for generating a "correction signal" (153) as recited. Note the decoder (143) generates "quality data" (133b) as well as "received data" (133a). Therefore, AAPA figures 5 and 7 anticipate all limitations of the claim.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

3. **Claim 15 is allowed.**

Claim 15 is limited to a *digital portable telephone set including means for demodulating a received signal and reproducing data with control means for line control in the portable telephone set*. Fukushi discloses a phase demodulator selectively using a first or a second detector. See Abstract. As seen in figure 2 of Fukushi, the phase demodulator comprises a "phase detecting unit" (16), a "one symbol delaying unit" (17a), a "first subtractor" (17b), a "correction signal" (secondary input to subtractor 36), a "second subtractor" (36) and a "correcting means" (18). However, Fukushi fails to

disclose two parallel "decoders," and in contrast discloses only one single phase discriminator (31). Thus, claim 15 is allowable in view of Fukushima.

Response to Arguments

Applicant's arguments with respect to claims 1-5, 7, 8, and 16 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to claims 6 and 9-14 filed 25 August 2005 have been fully considered but they are not persuasive.

With respect to claim 6, the applicant alleges on page 10, lines 8-13, of the current response that the PLL corrects the phase and not the received signal frequency data; the examiner respectfully disagrees. Specifically, the examiner treated this argument in the Advisory Action filed 04 August 2005. As the applicant has failed to address the examiner's response the applicant's allegations are moot and the rejection of this claim is maintained.

With respect to claims 9-14, the applicant alleges on page 11, line 19, through page 13, line 2, of the current response that the examiner is inconsistent in rejecting the claims because the examiner relies on different aspects of the Fukushima reference to reject "the same" elements of different claims. The applicant's allegation is moot as the rejections of each independent claim and its dependents relies on only one interpretation of the reference. Without a showing by the applicant that such a practice is not proper, the rejections of claims 9-14 are maintained.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F. Briney III whose telephone number is 571-272-7513. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WFB
11/21/05


SINH TRAN
SUPERVISORY PATENT EXAMINER